



**United States
Department of
Agriculture**

**Agricultural
Marketing
Service**

**Fruit and
Vegetable
Division**

**Processed
Products
Branch**

United States Standards for Grades of Frozen Turnip Greens with Turnips

Effective date August 19, 1958

This is the first issue of the United States Standards for Grades of Frozen Turnip Greens with Turnips published in the **FEDERAL REGISTER** of July 19, 1958 (23 FR 5497) to become effective August 19, 1958.

Voluntary U.S. grade standards are issued under the authority of the Agricultural Marketing Act of 1946, which provides for the development of official U.S. grades to designate different levels of quality. These grade standards are available for use by producers, suppliers, buyers, and consumers. As in the case of other standards for grades of processed fruits and vegetables, these standards are designed to facilitate orderly marketing by providing a convenient basis for buying and selling, for establishing quality control programs, and for determining loan values.

The standards also serve as a basis for the inspection and grading of commodities by the Federal inspection service, the only activity authorized to approve the designation of U.S. grades as referenced in the standards, as provided under the Agricultural Marketing Act of 1946. This service, available as on-line (in-plant) or lot inspection and grading of all processed fruit and vegetable products, is offered to interested parties, upon application, on a fee-for-service basis. The verification of some specific recommendations, requirements, or tolerances contained in the standards can be accomplished only by the use of on-line inspection procedures. In all instances, a grade can be assigned based on final product factors or characteristics.

In addition to the U.S. grade standards, grading manuals or instructions for inspection of several processed fruits and vegetables are available upon request for a nominal fee. These manuals or instructions contain detailed interpretations of the grade standards and provide step-by-step procedures for grading the product.

Grade standards are issued by the Department after careful consideration of all data and views submitted, and the Department welcomes suggestions which might aid in improving the standards in future revisions. Comments may be submitted to, and copies of standards and grading manuals obtained from:

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United States Standards for Grades of Frozen Turnip Greens with Turnips

Section	Page No.
§52.3731	Product description. 2
§52.3732	Styles of frozen turnip greens with turnips. 2
§52.3733	Color of turnips in frozen turnip greens with turnips. 2
§52.3734	Recommended proportion of ingredients. 2
§52.3735	Grades of frozen turnip greens with turnips. 3
§52.3736	Ascertaining the grade. 3
§52.3737	Ascertaining the ratings for the factors which are scored. 4
§52.3738	Color. 4
§52.3739	Defects. 5
§52.3740	Character. 6
§52.3741	Explanation and methods of analysis. 7
§52.3742	Ascertaining the grade of a lot. 8
§52.3743	Score sheet for frozen turnip greens with turnips. 8

Authority: Agricultural Marketing Act of 1946, Secs. 203, 205, 60 Stat. 1087, as amended, 1090, as amended (7 U.S.C. 1622, 1624).

Note: Compliance with the provisions of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or with applicable State laws and regulations.

§52.3731 Product description.

Frozen turnip greens with turnips is the product prepared from the clean, sound, succulent leaves and the clean, sound, succulent roots of the turnip plant (*Brassica rapa*) by washing, sorting, trimming, blanching, and proper rining, and is then frozen in accordance with good commercial practice and maintained at temperatures necessary for the preservation of the product.

§52.3732 Styles of frozen turnip greens with turnips.

- (a) **General.** The style of frozen turnip greens with turnips applies to the form of the leaf material used and to the turnip root ingredient of the product. The turnip root ingredient is prepared in one of the following forms: Whole; sliced; diced; and cut.
- (b) **Style I Whole Leaf** is the style of frozen turnip greens with turnips that consists of the leaf with adjacent portions of the stem, together with a single form of the turnip root ingredient.
- (c) **Style II Sliced** is the style of frozen turnip greens with turnips that consists of leaves with adjacent portions of the stem which have been sliced into reasonably uniform strips, together with a single form of the turnip root ingredient.
- (d) **Style III Cut or Chopped** is the style of frozen turnip greens with turnips that consists of leaves with adjacent portions of the stem which have been cut or chopped into small pieces, together with a single form of the turnip root ingredient.

§52.3733 Color of turnips in frozen turnip greens with turnips.

- (a) **White.**
- (b) **Yellow.**

§52.3734 Recommended proportion of ingredients.

It is recommended that frozen turnip greens with turnips consist of 50 percent or more, by weight, of turnip greens and not less than 20 percent nor more than 50 percent, by weight, of turnips.

§52.3735 Grades of frozen turnip greens with turnips.

- (a) U.S. Grade A or U.S. Fancy** is the quality of frozen turnip greens with turnips in which the turnip ingredient is fairly uniform in size and each ingredient possesses similar varietal characteristics; possesses a good flavor; possesses a good color; is practically free from defects; possesses a good character; and scores not less than 85 points when scored in accordance with the scoring system outlined in this subpart.
- (b) U.S. Grade B or U.S. Extra Standard** is the quality of frozen turnip greens with turnips in which each ingredient possesses similar varietal characteristics; possesses a reasonably good flavor; possesses a reasonably good color; is reasonably free from defects; possesses a reasonably good character; and scores not less than 70 points when scored in accordance with the scoring system outlined in this subpart.
- (c) Substandard** is the quality of frozen turnip greens with turnips that fail to meet the requirements of U.S. Grade B.

§52.3736 Ascertaining the grade.

- (a) General.** In addition to considering other requirements outlined in the standards, the following quality factors are evaluated in ascertaining the grade of the product:

 - (1) Factors not rated by score points.**

 - (i)** Uniformity of size.
 - (ii)** Varietal characteristics.
 - (iii)** Flavor.
 - (iv)** Proportion of ingredients.
 - (2) Factors rated by score points.** The relative importance of each factor which is rated is expressed numerically on the scale of 100. The maximum number of points that may be given for each such factor is:

Factors	Points
Color	20
Defects	40
Character	<u>40</u>
Total Score	100

(b) **Evaluation of quality.** The rating for the factors of color, defects, and character (with respect to each ingredient) and the evaluation of uniformity of size and similar varietal characteristics are determined immediately after thawing so that the product is sufficiently free from ice crystals to permit proper handling as individual units. A representative sample is cooked to ascertain the tenderness of the frozen leaf and root ingredient before final evaluation of the score for character. The flavor is also ascertained on the cooked product.

(c) **Definition of requirements not rated by score points.**

- (1) **Good flavor** means that the product, after cooking, has a good, normal flavor and odor and is free from objectionable flavors and objectionable odors of any kind.
- (2) **Reasonably good flavor** means that the product, after cooking, may be lacking in good flavor and odor but is free from objectionable flavors and objectionable odors of any kind.
- (3) **Fairly uniform in size** means that the turnip ingredient units may vary in size but not to an extent that seriously detracts from the appearance of the product.

§52.3737 Ascertaining the ratings for the factors which are scored.

The essential variations within each factor which is scored are so described that the value may be ascertained for each factor and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, **17 to 20 points** means 17, 18, 19 or 20 points).

§52.3738 Color.

- (a) **General.** The factor of color refers to the general brightness of the combined ingredients before and after cooking.

- (b) **"A" classification.** Frozen turnip greens with turnips that possess a good color may be given a score of 17 to 20 points. **Good color** means that the leafy ingredient possesses a bright, practically uniform typical green color of young tender turnip greens and that the turnip ingredients have been properly prepared and properly processed.
- (c) **"B" classification.** Frozen turnip greens with turnips that possess a reasonably good color may be given a score of 14 to 16 points. Frozen turnip greens with turnips that fall into this classification shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule). **Reasonably good color** means that the color of the leafy ingredient is reasonably bright and typical of reasonably young and reasonably tender turnip greens and that the turnip ingredient possesses a characteristic color for the variety, which color is typical of reasonably young and reasonably tender turnips which have been properly prepared and properly processed.
- (d) **"SStd" classification.** Frozen turnip greens with turnips that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 13 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.3739 Defects.

- (a) **General.** The factor of defects refers to the degree of freedom from sand, grit, or silt, harmless extraneous material, and from damaged leaf and turnip ingredient.
 - (1) **Sand, grit, or silt** means any particle of earthy material.
 - (2) **Harmless extraneous material** means any extraneous vegetable substance, such as weeds or grass, that is harmless.
 - (3) **Damage** means damaged by yellow, brown, or other discoloration affecting any leaf or portion of leaf, stem or portion of stem, and damage by discoloration, insect injury, pathological injury, or other means affecting any leaf or unit of turnip ingredient. Minute, insignificant blemishes shall not be considered as damage.
- (b) **"A" classification.** Frozen turnip greens with turnips that are practically free from defects may be given a score of 34 to 40 points. **Practically free from defects** means that no grit, sand, or silt may be present that affects the appearance or edibility of the product, and that there may be present for each 10 ounces, net weight, of turnip greens with turnips not more than:

- (1) In whole leaf style, an aggregate of 6 inches in length of grass and weeds: **Provided**, that the total amount does not materially affect the appearance or edibility of the product.
 - (2) In other styles no grass or weeds or pieces of grass or weeds that materially affect the appearance or edibility of the product.
 - (3) An aggregate area of damage affecting 3 square inches (3" x 1") of leaves and stems or portions of leaves and stems, and 5 percent, by count, of units of turnip ingredient affected by damage: **Provided**, that damaged units do not materially affect the appearance or edibility of the product.
- (c) **"B" classification.** Frozen turnip greens with turnips that are reasonably free from defects may be given a score of 28 to 33 points. Frozen turnip greens with turnips that fall into this classification shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule).
- (1) In whole leaf style, an aggregate of 9 inches in length of grass and weeds: **Provided**, that the total amount does not seriously affect the appearance or edibility of the product.
 - (2) In other styles no grass or weeds or pieces of grass or weeds that seriously affect the appearance or edibility of the product.
 - (3) An aggregate area of damage affecting 6 square inches (6" x 1") of leaves and stems or portions of leaves and stems, and 10 percent, by count, of units of turnip ingredient affected by damage: **Provided**, that damaged units do not seriously affect the appearance or edibility of the product.
- (d) **"SStd" classification.** Frozen turnip greens with turnips that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 27 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.3740 Character.

- (a) **General.** The factor of character refers to the tenderness and texture of the product and the degree of freedom from fibrous or pithy turnip material.

- (b) **"A" classification.** Frozen turnip greens with turnips that possess a good character may be given a score of 34 to 40 points. **Good character** means that the leafy ingredient is tender and practically free from coarse or tough leaves and stems and that the turnip ingredient possesses a tender texture and is practically free from fibrous or pithy units.
- (c) **"B" classification.** Frozen turnip greens with turnips that possess a reasonably good character may be given a score of 28 to 33 points. Frozen turnip greens with turnips that fall into this classification shall not be graded above U.S. Grade B, regardless of the total score for the product (this is a limiting rule). **Reasonably good character** means that the leafy ingredient is reasonably tender and reasonably free from coarse or tough leaves and stems and that the turnip ingredient possesses a reasonably tender texture and is reasonably free from fibrous or pithy units.
- (d) **"SStd" classification.** Frozen turnip greens with turnips that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 27 points and shall not be graded above Substandard, regardless of the total score for the product (this is a limiting rule).

§52.3741 Explanation and methods of analysis.

- (a) The proportion of each of the ingredients is determined on the thawed product by following procedure:
 - (1) Separate the leafy ingredient from the turnip ingredient from all of the containers in the sample.
 - (2) Composite the leafy ingredient and weigh.
 - (3) Composite the turnip ingredient and weigh.
 - (4) Add the weights of each of the ingredients to obtain the total weight of the combined ingredients in all of the containers in the sample.
 - (5) Calculate the percent of each of the ingredients by dividing the total weight of the combine ingredients into the composite weight of each ingredient and multiply by 100.
- (b) Compliance with the requirements for proportions of ingredients will be determined by averaging the percent, by weight, of each ingredient in all of the containers in the sample: **Provided**, that any deviation from the recommended proportion of ingredients in any container is within the limits of good commercial practice.

§52.3742 Ascertaining the grade of a lot.

The grade of a lot of frozen turnip greens with turnips covered by these standards is determined by the procedures set forth in the **Regulations Governing Inspection and Certification of Processed Products Thereof, and Certain Other Processed Food Products** (7 CFR 52.1 through 52.83; 22 F.R. 3535).

§52.3743 Score sheet for frozen turnip greens with turnips.

Size and kind of container			
Container mark or identification			
Label			
Net weight (ounces)			
Style of product			
Turnips (form and color)			
Proportion of ingredients:			
Turnip greens %			
Turnips %			
Uniformity of turnip ingredient (Whole, Sliced, Diced, Cut) Meets A. . . Fails A			
Factors		Score points	
Color	20	"A"	17-20
		"B"	14-16 <u>1/</u>
		"SStd"	0-13 <u>1/</u>
Defects	40	"A"	34-40
		"B"	28-38 <u>1/</u>
		"SStd"	0-27 <u>1/</u>
Character	40	"A"	34-40
		"B"	28-38 <u>1/</u>
		"SStd"	0-27 <u>1/</u>
Total Score	100		
Flavor			
Varietal Characteristics			
Grade			

1/ Indicates limiting rule.

The United States Standards for Grades of Frozen Turnip Greens with Turnips (which is the first issue) contained in this subpart shall become effective 30 days after publication hereof in the Federal Register.

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